










Date: Thursday, 3/9/2006 8:29:37 AM
 User: Linda Lacelle

Process Sheet

Customer : CU-DAR001 Dart Helicopters Services	Drawing Name : SHUT-OFF VALVE ASSEMBLY
Job Number : 26170	
Estimate Number : 12186	
P.O. Number : N/A	Part Number : D3469041
This Issue : 3/9/2006 S.O. No. : N/A	Drawing Number : D3469 REV A
Prsht Rev. : NC	Project Number : N/A
First Issue : N/A Type : SMALL /MED FAB	Drawing Revision : A
Previous Run : N/A	Material : N/A
Written By : <u>SEE COMMENT BELOW</u>	Due Date : 3/30/2006 Qty: 1 Um: Each
Checked & Approved By : <u>SEE ABOVE USER & DATE</u>	
Comment : Est Rev: A New Issue 06-02-03 JLM	
Additional Product	
Job Number: 	
Seq. #:	Machine Or Operation: Description :
1.0	D3469043 TUBE ASSEMBLY
	
	
Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)	
Pick:	
Qty	Part Number Description Batch
1	D3469-406 Tube Assembly <u>26264</u>
<u>043</u>	
<u>06-03-30 ①</u>	
2.0	D34705 PLATE VALVE
	
	
Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)	
Pick:	
Qty	Part Number Description Batch
4	D3470-5 Plate Valve <u>26116</u>
<u>06-03-30 ①</u>	
3.0	D34707 valve seal
	
	
Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)	
Pick:	
Qty	Part Number Description Batch
2	D3470-7 Valve Seal <u>1326266</u>
<u>06-03-30 ①</u>	
4.0	MS35206217 Screw
	
	
Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)	
Pick:	
Qty	Part Number Description Batch
4	MS35206-217 Screw <u>113883</u>
<u>06-03-30 ①</u>	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Thursday, 3/9/2006 8:29:37 AM
User: Linda Lacelle

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SHUT-OFF VALVE ASSEMBLY

Job Number: 26170

Part Number: D3469041

Job Number:



Seq. #:	Machine Or Operation:	Description :
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5.0	AN9604L	washer
-----	---------	--------



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Pick:

Qty	Part Number	Description	Batch
4	AN960-4L	Washer	<u>M14606</u>

PO 0603-301

6.0	NAS679A04	NUT
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Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Pick:

Qty	Part Number	Description	Batch
4	NAS679-A04	Nut	<u>M100546</u>

PO 0603-301

7.0	D3470041	SHUT-OFF VALVE SHAFT
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Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick:

Qty	Part Number	Description	Batch
1	D3470-041	Shut-Off Valve Assembly	<u>B20387</u>

PO 0603-301

8.0	D34699	bolt
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Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick:

Qty	Part Number	Description	Batch
1	D3469-9	Bolt	<u>B20387</u>

PO 0603-301

9.0	AN960416	Washer
-----	----------	--------



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Pick:

Qty	Part Number	Description	Batch
4	AN960-416	Washer	<u>M5519</u>

PO 0603-301

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes ☐ No ☒ DQA: ☒ Date: 26/03/31
 QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Thursday, 3/9/2006 8:29:37 AM
User: Linda Lacelle

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SHUT-OFF VALVE ASSEMBLY

Job Number: 26170

Part Number: D3469041

Job Number:



Seq. #:	Machine Or Operation:	Description :
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10.0	AN3104	NUT
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Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick:

Qty	Part Number	Description	Batch
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1	AN310-4	Nut	119356
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06 03 30 ①

11.0	SMALL FAB 1	SMALL & MEDIUM FAB RESOURCE 1
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Comment: SMALL & MEDIUM FAB RESOURCE 1

1-Assemble as per Dwg D3469

06 03 30 ①

12.0	QC5	INSPECT WORK TO CURRENT STEP
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Comment: INSPECT WORK TO CURRENT STEP

Ensure Unit Opens and Closes Smoothly

06 03 30

①

13.0	PACKAGING 1	PACKAGING RESOURCE #1
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Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: _____

06 03 30 ①

14.0	DC	DOCUMENT CONTROL
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Comment: DOCUMENT CONTROL

Inspection Level 21

06 03 30 ①

Job Completion



06 03 30 ①

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
06.03.20		ADD STEP FOR MS Z4665-153 CUTTER PW H19096	B	06.03.20	1	[Signature]	[Signature] 06.03.20
		Permanent Change					

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

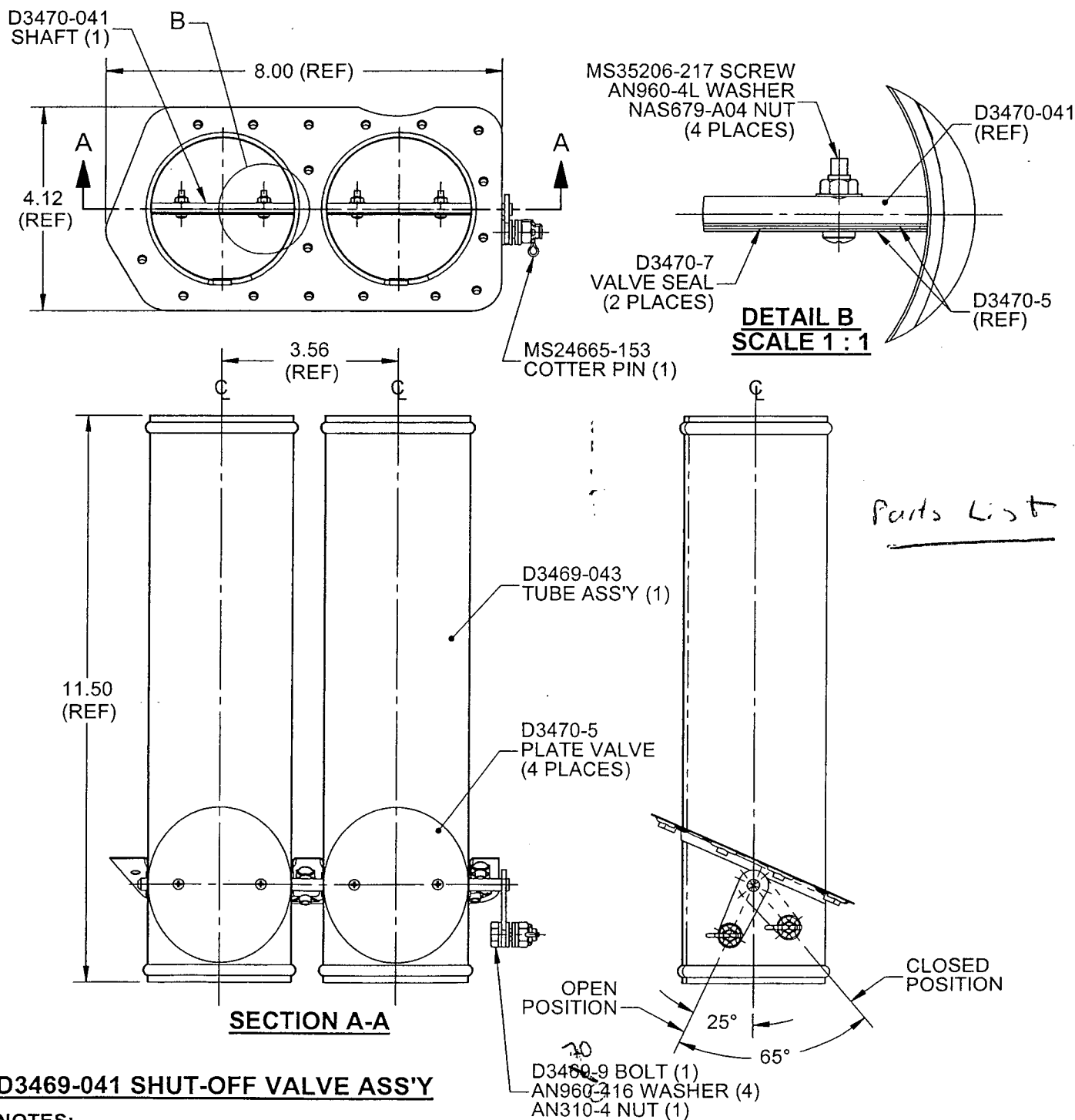
QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

PRELIMINARY ISSUE

DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO. D3469	REV. A SHEET 1 OF 5
DATE	05.12.12	TITLE SHUT-OFF VALVE ASS'Y	SCALE 1:3
A	05.12.12	NEW ISSUE	



D3469-041 SHUT-OFF VALVE ASS'Y

NOTES:

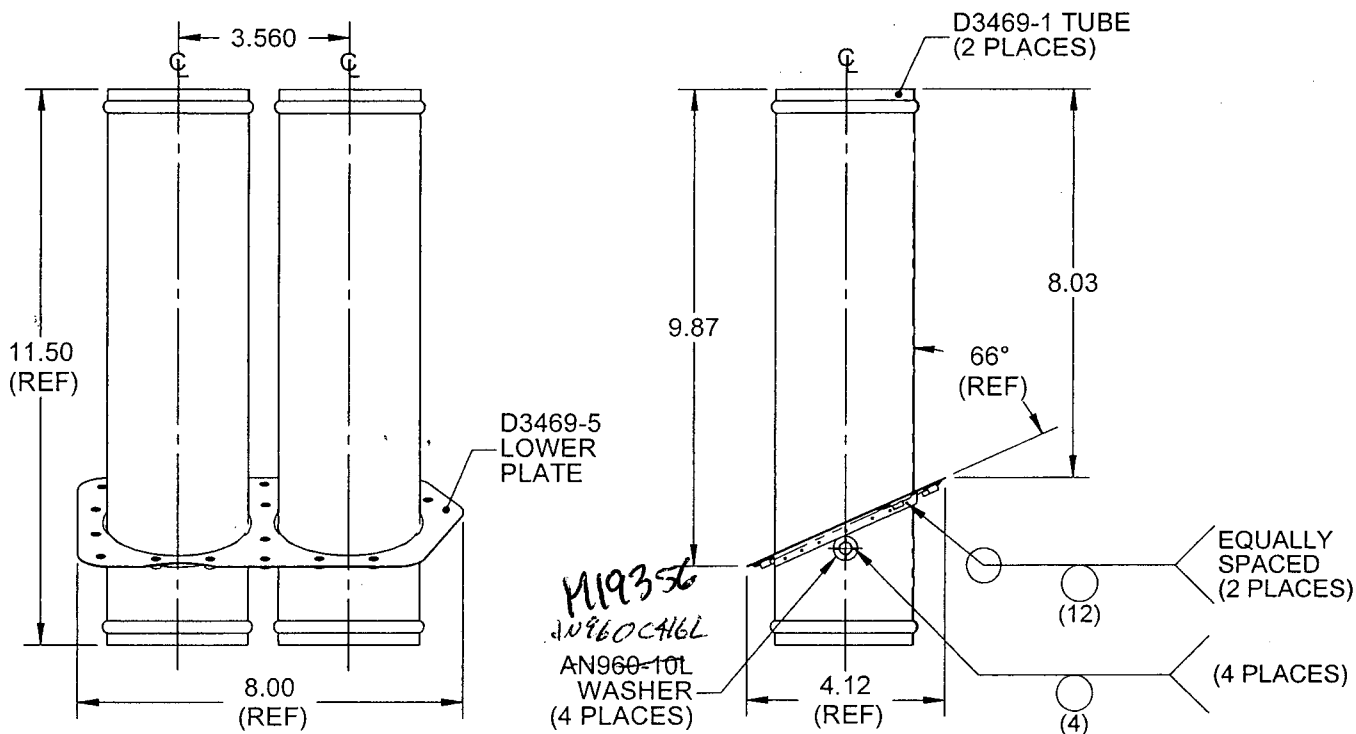
- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 2) ALL DIMENSIONS ARE IN INCHES
- 3) BREAK ALL SHARP EDGES 0.005 TO 0.010

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PRELIMINARY ISSUE

DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO. D3469	REV. A SHEET 2 OF 5
DATE 05.12.12	TITLE SHUT-OFF VALVE ASS'Y		SCALE 1:4



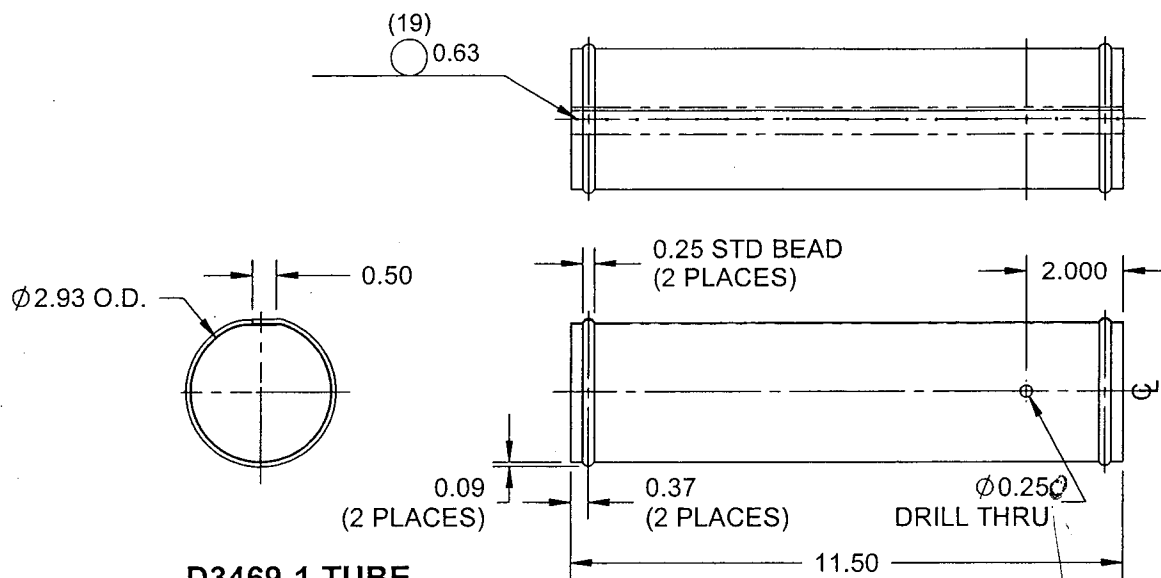
D3469-043 TUBE ASSEMBLY

NOTES:

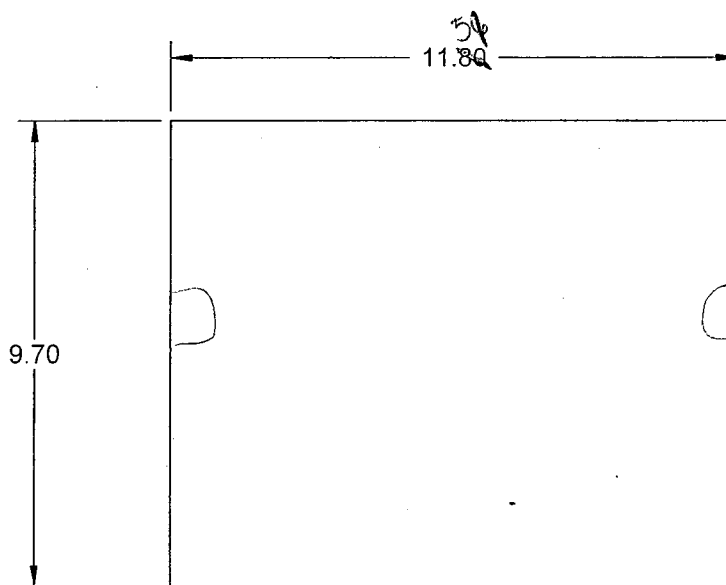
- 1) SPOT WELD PER DART QSI 004
- 2) FINISH: ELECTRO-CHEMICALLY POLISH
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.010

PRELIMINARY ISSUE

DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
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DATE 05.12.09	TITLE SHUT-OFF VALVE ASS'Y		SCALE 1:4



D3469-1 TUBE



D3469-1F TUBE FLAT PATTERN

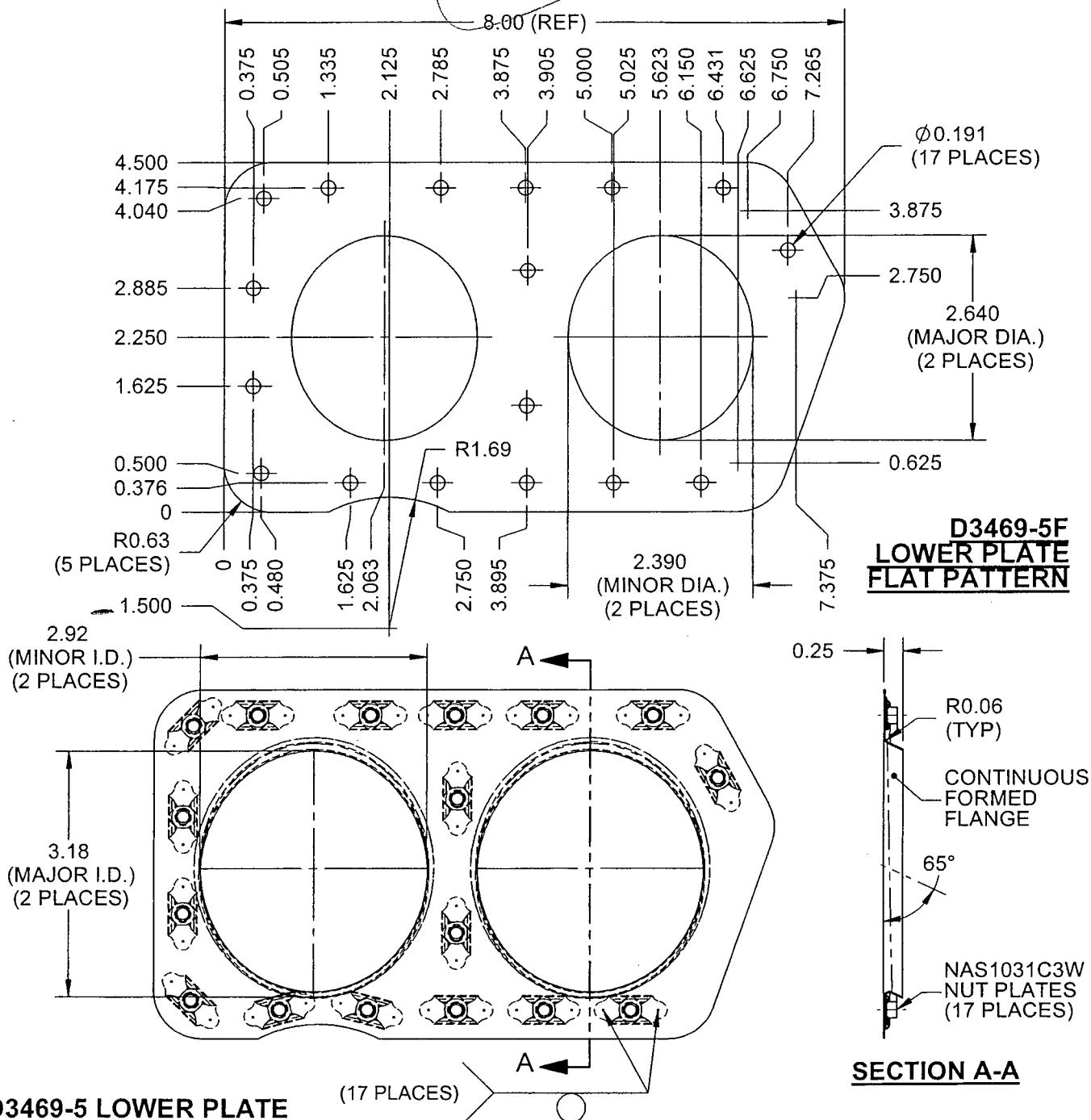
NOTES:

- 1) MATERIAL: AISI 304/316 SS SHEET PER MIL-S-5019 (ANNEALED) 2B FINISH
26 GAUGE SS (0.018 THICK)
(REF. DART SPEC. M304S26GA)
- 2) SPOT WELD PER DART QSI 004
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.010

may
need to enlarge
b/c shaft is
same ϕ

PRELIMINARY ISSUE

DESIGN 	DRAWN BY 	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
CHECKED	APPROVED 	DRAWING NO. D3469
DATE 05.12.09	TITLE SHUT-OFF VALVE ASS'Y	REV. A SHEET 5 OF 5 SCALE 1:2




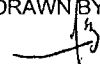
NOTES:

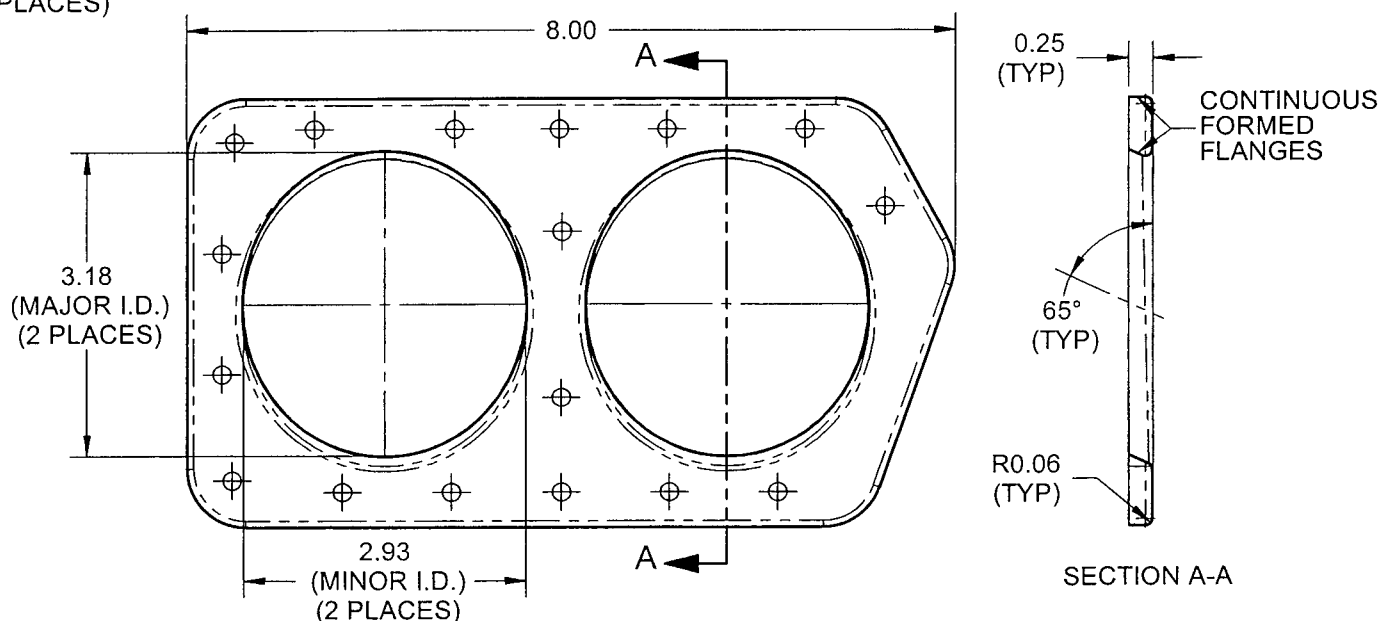
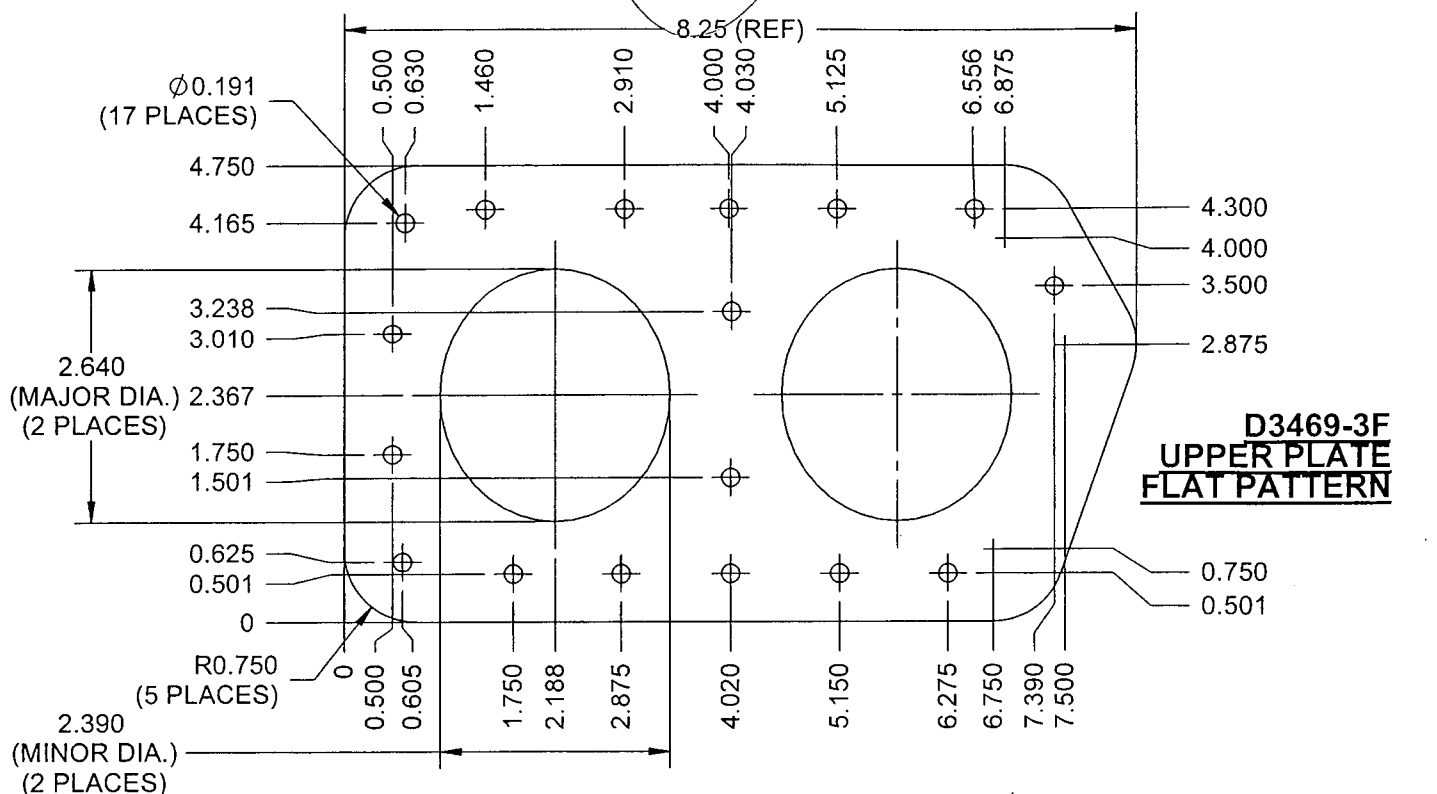
- 1) MATERIAL: AISI 304/316 SS SHEET PER MIL-S-5019 (ANNEALED) 2B FINISH 26 GAUGE SS (0.018 THICK)
(REF. DART SPEC. M304S26GA)
- 2) SPOT WELD NUT PLATES PER DART QSI 004
- 3) FINISH: ELECTRO-CHEMICALLY POLISH
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE IN INCHES
- 6) BREAK ALL SHARP EDGES 0.005 TO 0.010

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PRELIMINARY ISSUE

DESIGN 	DRAWN BY 	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
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DATE 05.12.09	TITLE SHUT-OFF VALVE ASS'Y		SCALE 1:2



D3469-3 UPPER PLATE BENDING DETAIL



NOTES:

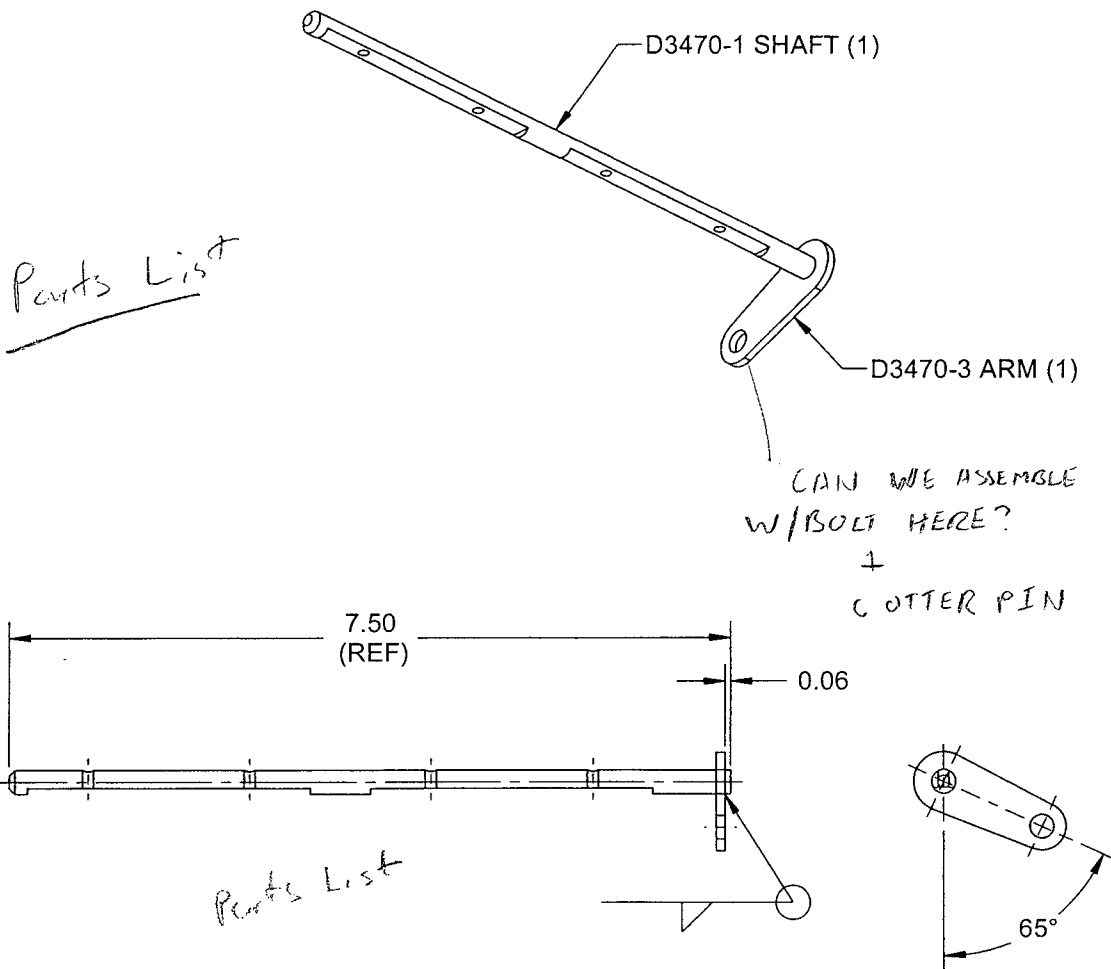
- 1) MATERIAL: AISI 304/316 SS SHEET PER MIL-S-5019 (ANNEALED) 2B FINISH
26 GAUGE SS (0.018 THICK) (REF. DART SPEC. M304S26GA)
- 2) FINISH: ELECTRO-CHEMICALLY POLISH
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.010

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PRELIMINARY ISSUE

DESIGN 	DRAWN BY 	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO. D3470	REV. A SHEET 1 OF 4
DATE 05.12.14	TITLE SHUT-OFF VALVE SHAFT		SCALE 1:2
A	05.12.14	NEW ISSUE	



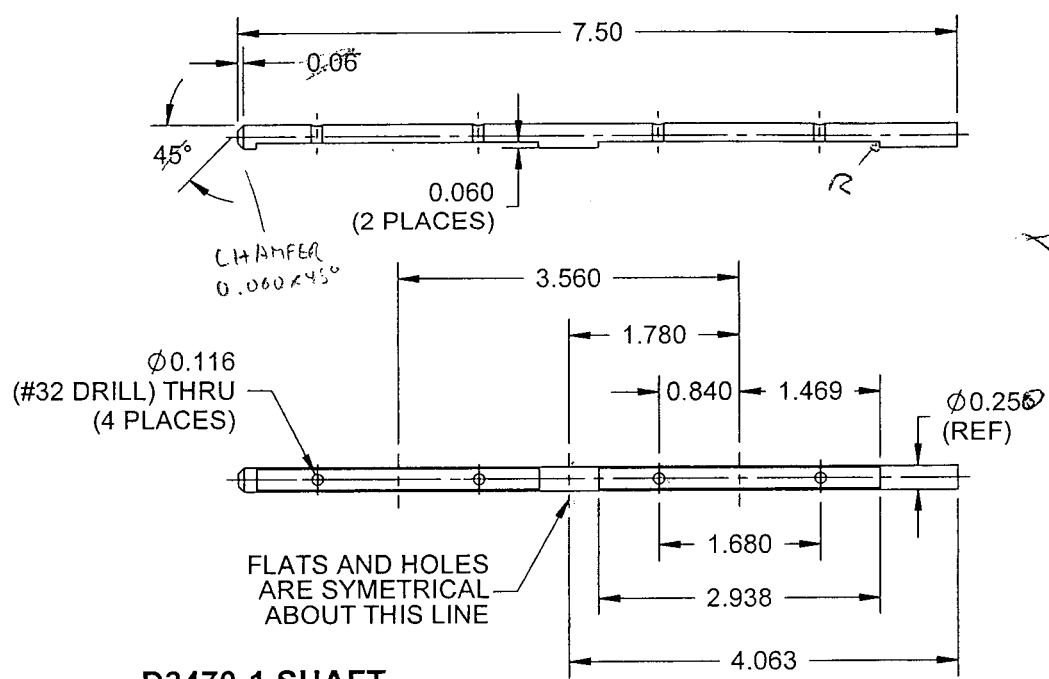
D3470-041 SHUT-OFF VALVE SHAFT

NOTES:

- 1) WELD PER DART QSI 004
- 2) FINISH: ELECTRO-CHEMICALLY POLISH
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.010

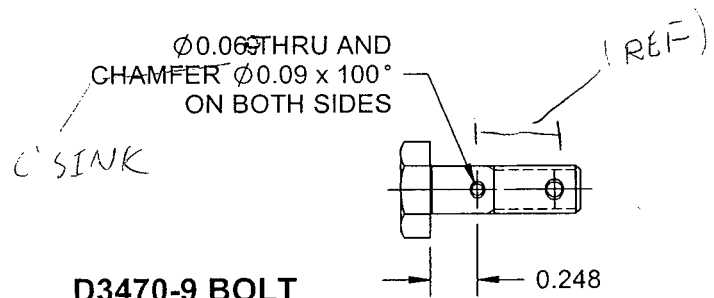
PRELIMINARY ISS

DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO. D3470	REV. A SHEET 2 OF 4
DATE 05.12.14	TITLE SHUT-OFF VALVE SHAFT		SCALE 1:2



D3470-1 SHAFT

- 1) MATERIAL: AISI 303 STAINLESS STEEL 0.25" ROUND BAR
(REF. DART SPEC. M303R0.250)



D3470-9 BOLT
SCALE 1:1

- 1) MATERIAL: AN4-6 BOLT
MAKE FROM AN-5 BOLT

NOTES:

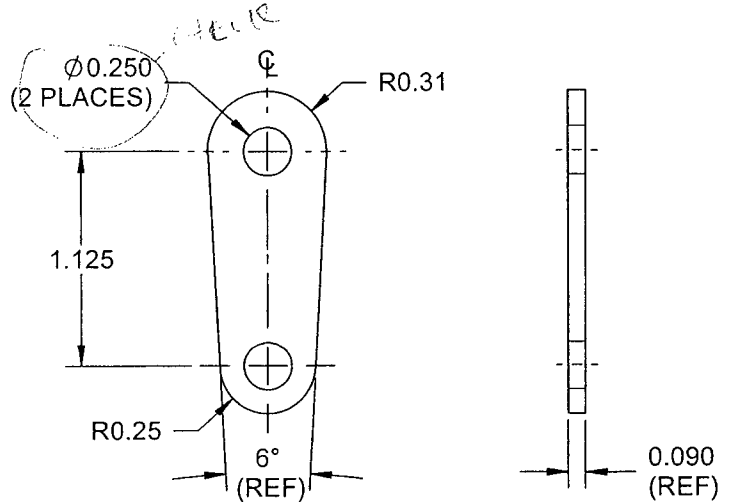
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.010

PRELIMINARY ISSUE

DESIGN <i>[Signature]</i>	DRAWN BY <i>[Signature]</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO. D3470	REV. A SHEET 3 OF 4
DATE 05.12.14		TITLE SHUT-OFF VALVE SHAFT	SCALE 1:1

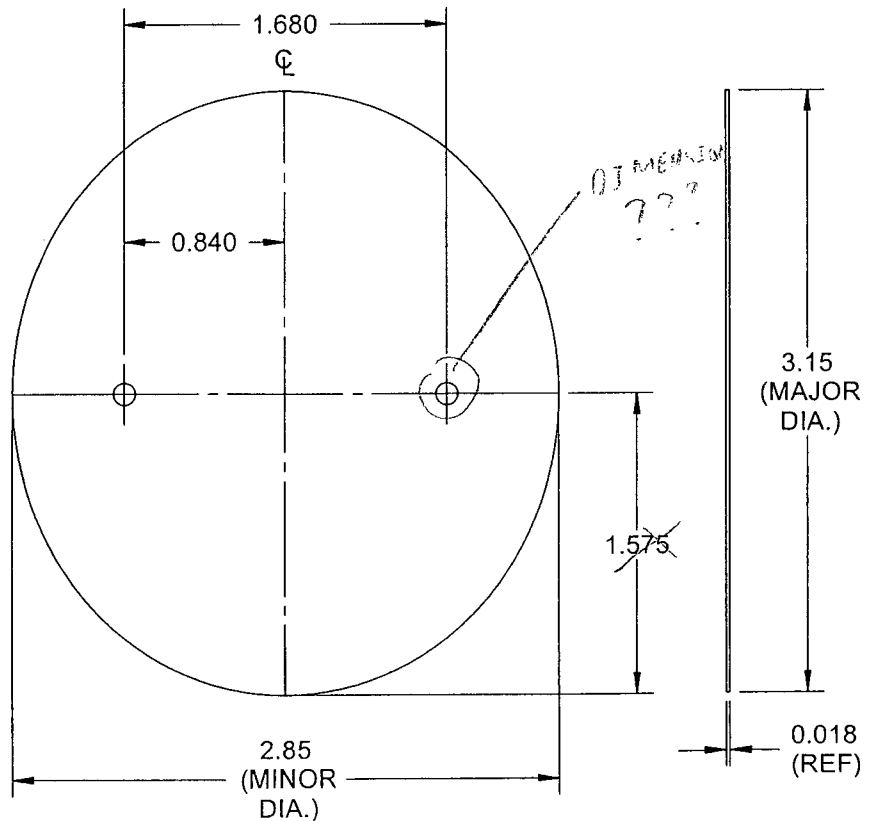
D3470-3 ARM

- 1) MATERIAL: AISI 304/316 SS SHEET PER MIL-S-5019 (ANNEALED) 2B FINISH 13 GAUGE SS (0.090 THICK) (REF. DART SPEC. M304S26GA)
- 2) FINISH: NONE.



D3470-5 PLATE VALVE

- 1) MATERIAL: AISI 304/316 SS SHEET PER MIL-S-5019 (ANNEALED) 2B FINISH 26 GAUGE SS (0.018 THICK) (REF. DART SPEC. M304S26GA)
- 2) FINISH: ELECTRO CHEMICALLY POLISH.

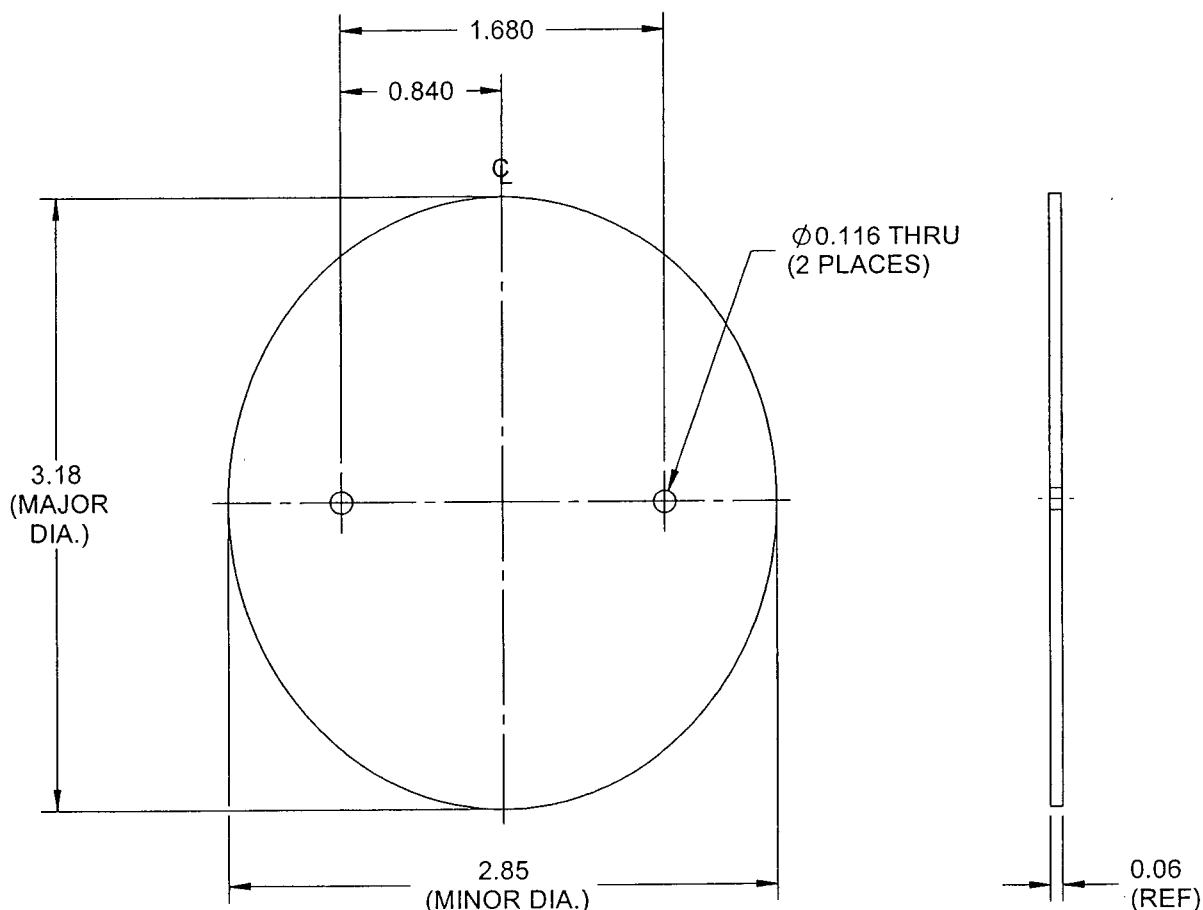


NOTES:

- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.010

PRELIMINARY ISSUE

DESIGN <i>[Signature]</i>	DRAWN BY <i>[Signature]</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO. D3470	REV. A SHEET 4 OF 4
DATE 05.12.14		TITLE SHUT-OFF VALVE SHAFT	SCALE 1:1



D3470-7 VALVE SEAL

NOTES:

- 1) MATERIAL: RED (OR GRAY) 60 DUROMETER HI-TEMPERATURE SILICONE SHEET, 0.063 THICK (REF. DART SPEC. M-SIL60-S.063)
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.010